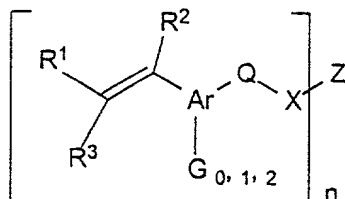


WHAT IS CLAIMED IS:

1. A compound having the structure:



- 5 in which

n is 1 to 6;

Ar is an aromatic or heteroaromatic ring or fused ring having 3 to 10 carbon atoms within the ring structure, in which the heteroatoms may be N, O, or S;

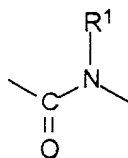
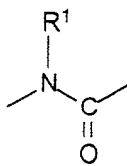
- 10 R^1 , R^2 , and R^3 are independently hydrogen, an alkyl group having 1 to 12 carbon atoms, or Ar as described above;

G is $-\text{OR}^4$, $-\text{SR}^4$, $-\text{N}(\text{R}^1)(\text{R}^2)$, Ar as described above, or an alkyl group having 1 to 12 carbon atoms, in which R^1 and R^2 are as described above and R^4 is Ar as described above or an alkyl group having 1 to 12

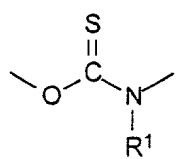
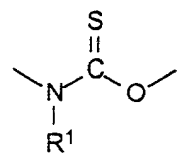
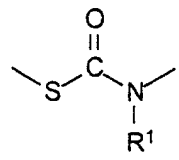
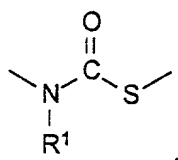
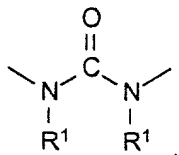
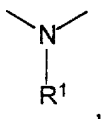
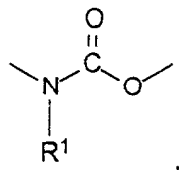
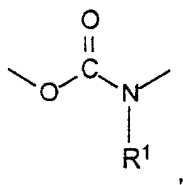
- 15 carbon atoms;

Q is an alkyl group having 1 to 12 carbon atoms;

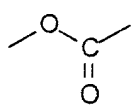
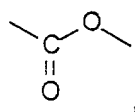
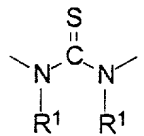
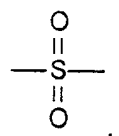
X is



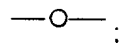
5



10



or



Z is an alkyl group, a siloxane, a polysiloxane, a C₁ to C₄ alkoxy-terminated siloxane or polysiloxane, a polyether, a polyester, a polyurethane, a poly(butadiene), or an aromatic, polyaromatic or heteroaromatic group.

5 2. The compound according to claim 1 in which

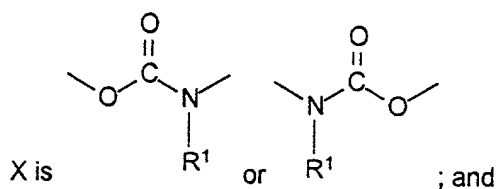
n is 1 or 2;

R¹, R², and R³ are hydrogen,

G is -OCH₃,

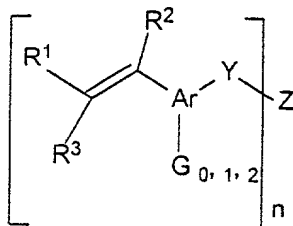
Q is a C₁ to C₄ alkyl,

10



Z is a branched or linear C₁₈ to C₃₆ chain, or a siloxane.

3. A compound having the structure:



15 in which

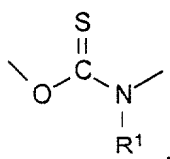
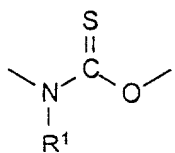
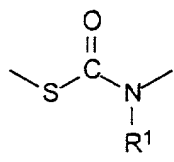
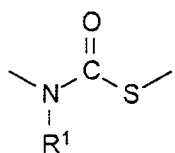
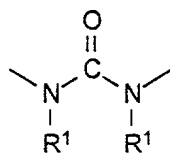
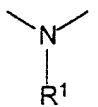
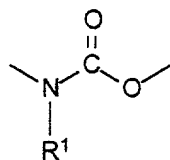
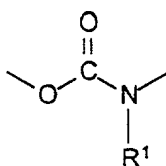
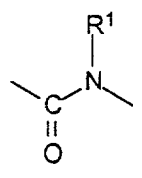
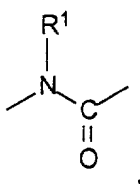
n is 1 to 6;

Ar is an aromatic or heteroaromatic ring or fused ring having 3 to 10 carbon atoms within the ring structure, in which the heteroatoms may be N, O, or S;

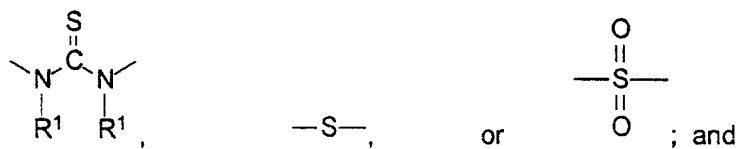
20 R¹, R², and R³ are independently hydrogen, an alkyl group having 1 to 12 carbon atoms, or Ar as described above;

G is $-OR^4$, $-SR^4$, $-N(R^1)(R^2)$, Ar as described above, or an alkyl group having 1 to 12 carbon atoms, in which R^1 and R^2 are as described above and R^4 is Ar as described above or an alkyl group having 1 to 12 carbon atoms;

5 Y is



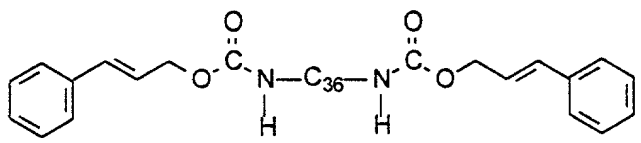
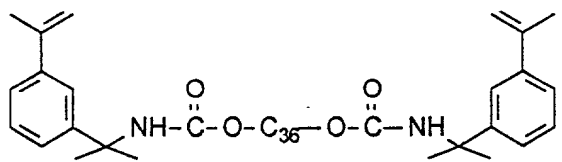
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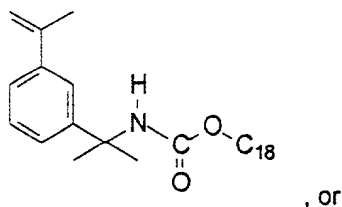
Z is an alkyl group, a siloxane, a polysiloxane, a C₁ to C₄ alkoxy-terminated siloxane or polysiloxane, a polyether, a polyester, a polyurethane, a poly(butadiene), or an aromatic, polyaromatic or heteroaromatic group.

5

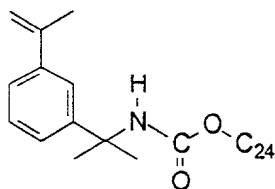
4. The compound according to claim 3 having the structure:



10

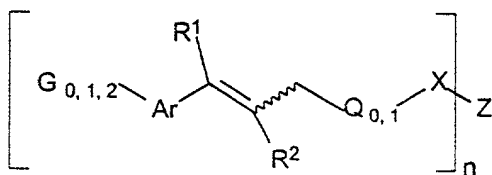


, or



in which C₁₈, C₂₄, and C₃₆, represent a mixture of isomers of linear or
 15 branched chain alkyl groups having C₁₈, C₂₄, and C₃₆ carbon atoms,
 respectively.

5. A compound having the structure:



in which

5 n is 1 to 6;

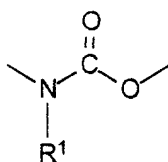
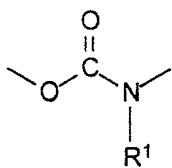
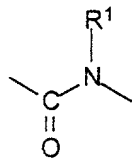
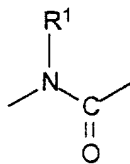
Ar is an aromatic or heteroaromatic ring or fused ring having 3 to 10 carbon atoms within the ring structure, in which the heteroatoms may be N, O, or S;

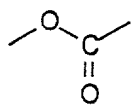
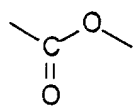
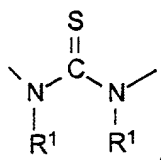
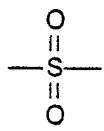
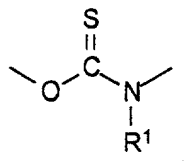
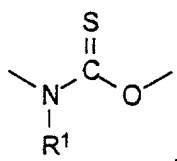
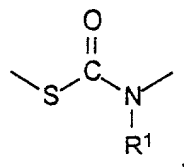
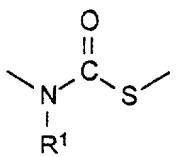
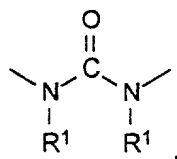
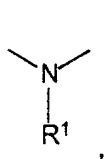
10 R¹ and R² are independently hydrogen, an alkyl group having 1 to 12 carbon atoms, or Ar as described above;

G is -OR⁴, -SR⁴, -N(R¹)(R²), Ar as described above, or an alkyl group having 1 to 12 carbon atoms, in which R¹ and R² are as described above and R⁴ is Ar as described above or an alkyl group having 1 to 12 carbon atoms;

15 Q is an alkyl group having 1 to 12 carbon atoms;

X is





—S— or —O—; and

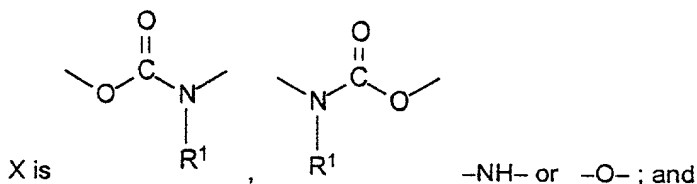
Z is an alkyl group, a siloxane, a polysiloxane, a C₁ to C₄ alkoxy-terminated siloxane or polysiloxane, a polyether, a polyester, a polyurethane, a poly(butadiene), or an aromatic, polyaromatic or heteroaromatic group.

6. The compound according to claim 5 in which
n is 1 or 2;

R¹, R², and R³ are hydrogen,

G is -OCH₃,

Q is a C₁ to C₄ alkyl,



5 Z is a branched or linear C₁₈ to C₃₆ chain, or a siloxane.

7. A curable adhesive composition comprising a compound according to any one of claims 1 to 6.

10 8. A curable adhesive composition comprising a compound according to any one of claims 1 to 6 and at least one copolymerizable electron acceptor compound selected from the group consisting of fumarates, maleates, acrylates and maleimides.

15 9. A curable adhesive composition comprising a compound according to any one of claims 1 to 6 and a thermally conductive filler.

10. A curable adhesive composition comprising a compound according to any one of claims 1 to 6 and an electrically conductive filler.

20

11. A curable adhesive composition comprising a compound according to any one of claims 1 to 6 and a nonconductive filler.

12. A curable adhesive composition comprising a compound according to any one of claims 1 to 6, at least one copolymerizable electron acceptor

25

compound selected from the group consisting of fumarates, maleates, acrylates and maleimides, and a thermally conductive filler.

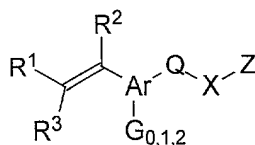
13. A curable adhesive composition comprising a compound according to
5 any one of claims 1 to 6 , at least one copolymerizable electron acceptor compound selected from the group consisting of fumarates, maleates, acrylates and maleimides, and an electrically conductive filler.

14. A curable adhesive composition comprising a compound according to
10 any one of claims 1 to 6, at least one copolymerizable electron acceptor compound selected from the group consisting of fumarates, maleates, acrylates and maleimides, and a nonconductive filler.

15. A semiconductor package in which a silicon chip is adhered to a
15 substrate with an adhesive comprising a compound according to any one of claims 12 to 14.

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18. A compound having the structure:



in which

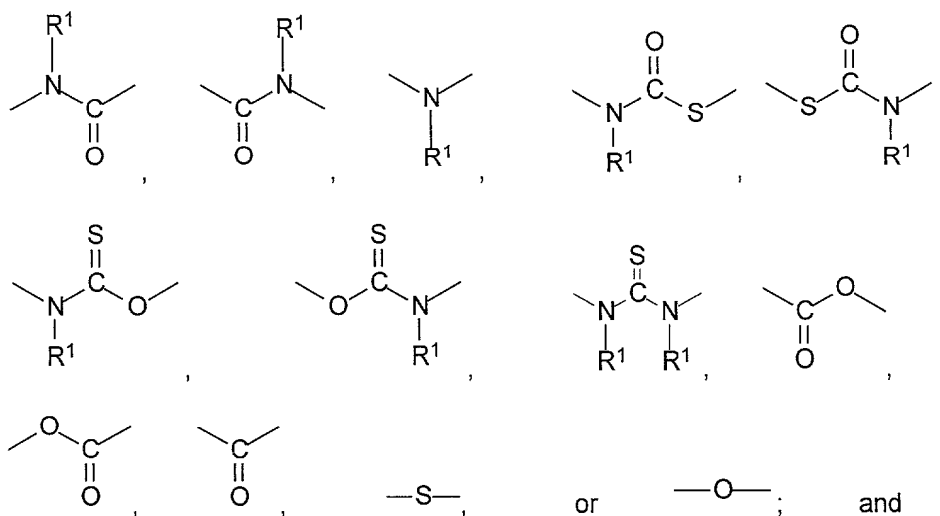
Ar is an aromatic or heteroaromatic ring or fused ring having 3 to 10 carbon atoms within the ring structure, in which the heteroatoms may be N, O, or S;

R¹, R², and R³ are independently hydrogen, an alkyl group having 1 to 12 carbon atoms, or Ar as described above;

G is -OR⁴, -SR⁴, -N(R¹)(R²), Ar as described above, or an alkyl group having 1 to 12 carbon atoms, in which R¹ and R² are as described above, and R⁴ is Ar as described above or an alkyl group having 1 to 12 carbon atoms;

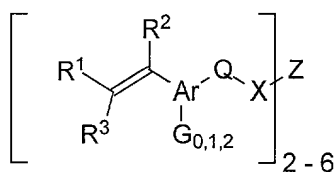
Q is an alkyl group having 1 to 12 carbon atoms;

X is



Z is an alkyl group, a siloxane, a polysiloxane, a C₁ to C₄ alkoxy-terminated siloxane or polysiloxane, a polyester, a polyurethane, a poly(butadiene), or an aromatic, polyaromatic or heteroaromatic group.

19. A compound having the structure:



in which

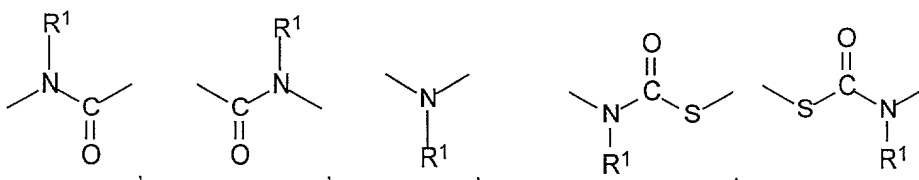
Ar is an aromatic or heteroaromatic ring or fused ring having 3 to 10 carbon atoms within the ring structure, in which the heteroatoms may be N, O, or S;

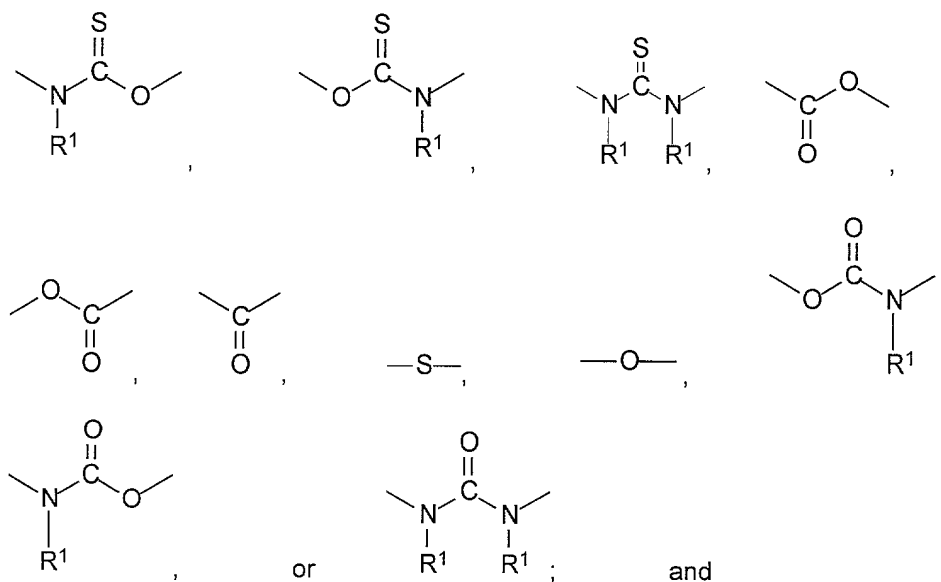
R¹, R², and R³ are independently hydrogen, an alkyl group having 1 to 12 carbon atoms, or Ar as described above;

G is -OR⁴, -SR⁴, -N(R¹)(R²), Ar as described above, or an alkyl group having 1 to 12 carbon atoms, in which R¹ and R² are as described above, and R⁴ is Ar as described above or an alkyl group having 1 to 12 carbon atoms;

Q is an alkyl group having 1 to 12 carbon atoms;

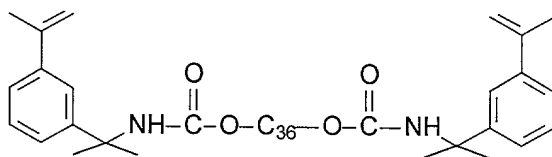
X is



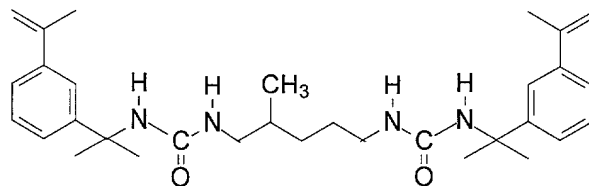
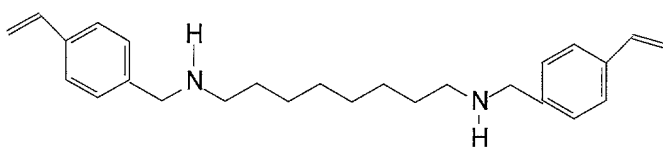
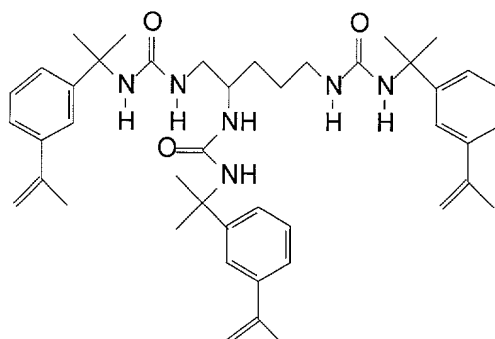
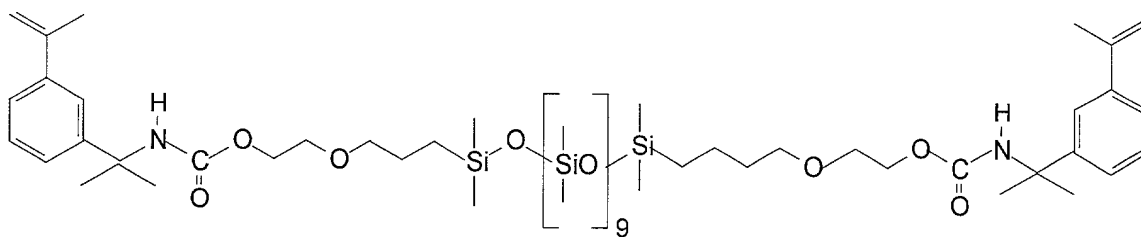
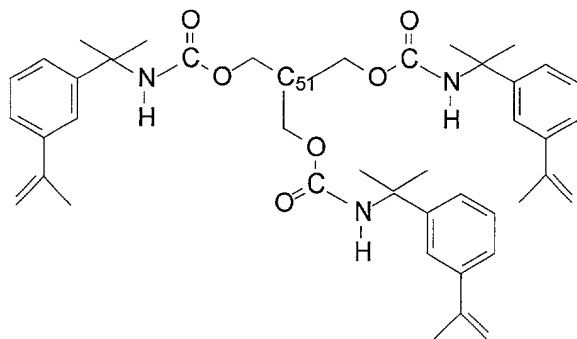


Z is an alkyl group, a siloxane, a polysiloxane, a C₁ to C₄ alkoxy-terminated siloxane or polysiloxane, a polyester, a polyurethane, a poly(butadiene), or an aromatic, polyaromatic or heteroaromatic group.

20. The compound according to claim 19 having the structure:

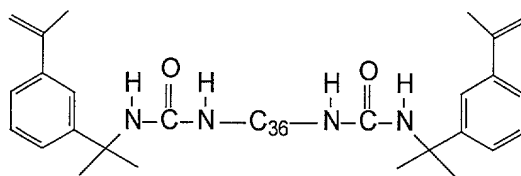


21. The compound according to claim 19 selected from the group consisting of:

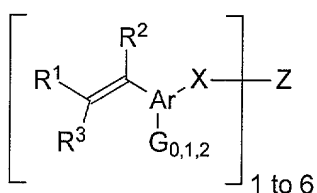


and

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22. A compound having the structure:



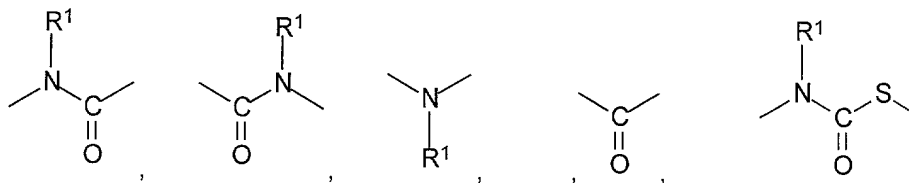
in which

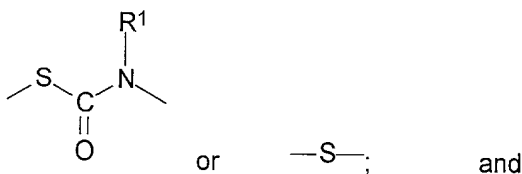
Ar is an aromatic or heteroaromatic ring or fused ring having 3 to 10 carbon atoms within the ring structure, in which the heteroatoms may be N, O, or S;

R¹, R², and R³ are independently hydrogen, an alkyl group having 1 to 12 carbon atoms, or Ar as described above;

G is -OR⁴, -SR⁴, -N(R¹)(R²), Ar as described above, or an alkyl group having 1 to 12 carbon atoms, in which R¹ and R² are as described above, and R⁴ is Ar as described above or an alkyl group having 1 to 12 carbon atoms;

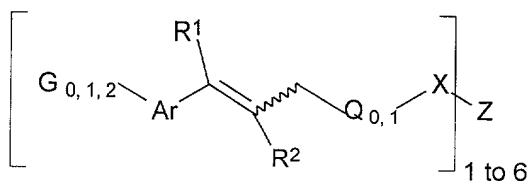
X is





Z is an alkyl group, a siloxane, a polysiloxane, a C₁ to C₄ alkoxy-terminated siloxane or polysiloxane, a polyester, a polyurethane, a poly(butadiene), or an aromatic, polyaromatic or heteroaromatic group.

23. A compound having the structure:



in which

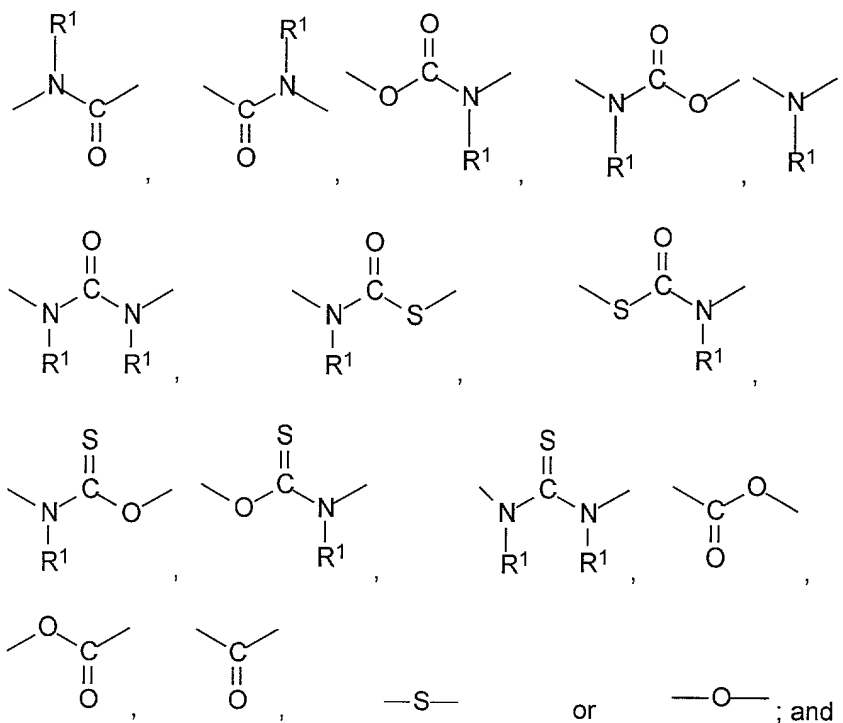
Ar is an aromatic or heteroaromatic ring or fused ring having 3 to 10 carbon atoms within the ring structure, in which the heteroatoms may be N, O, or S;

R¹ and R² are independently hydrogen, an alkyl group having 1 to 12 carbon atoms, or Ar as described above;

G is -OR⁴, -SR⁴, -N(R¹)(R²), Ar as described above, or an alkyl group having 1 to 12 carbon atoms, in which R¹ and R² are as described above and R⁴ is Ar as described above or an alkyl group having 1 to 12 carbon atoms;

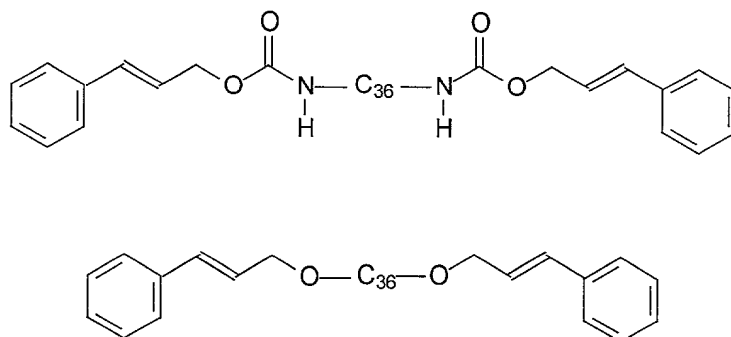
Q is an alkyl group having 1 to 12 carbon atoms;

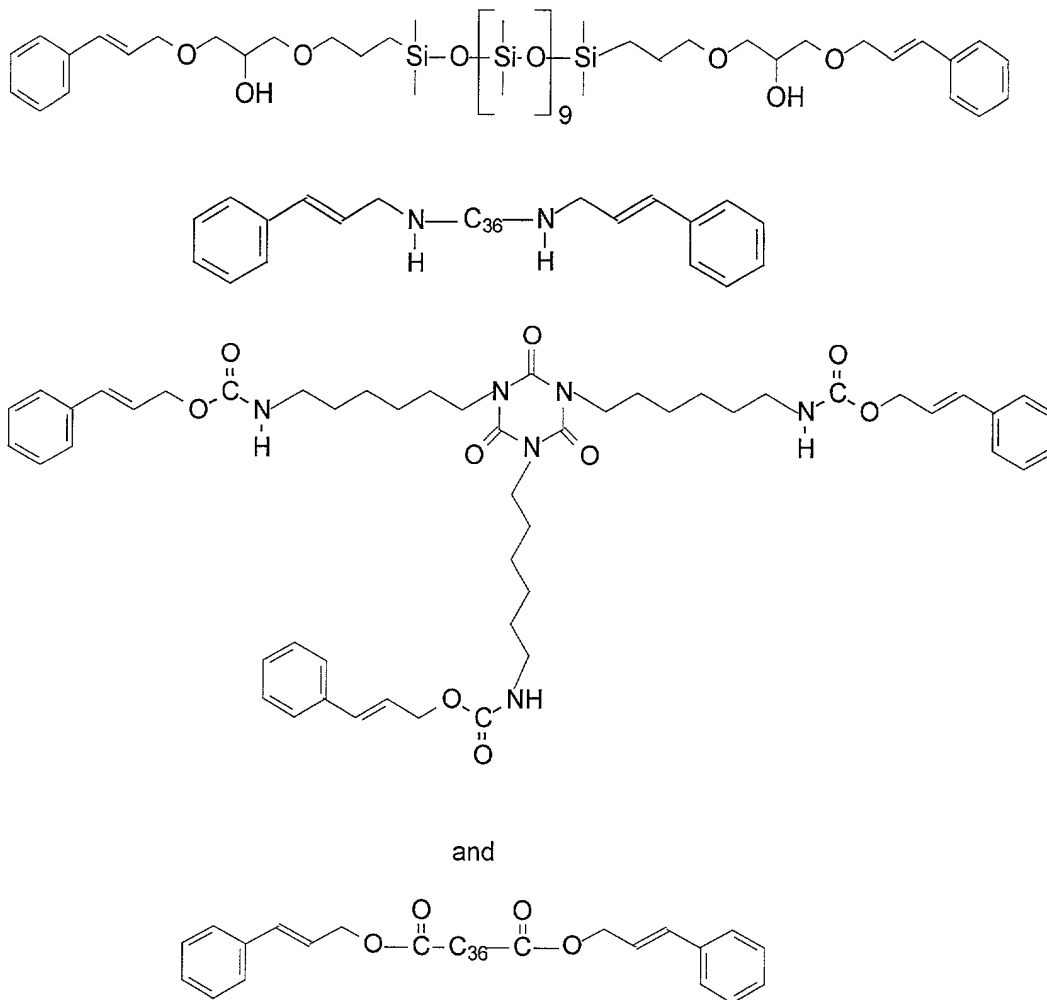
X is



Z is an alkyl group, a siloxane, a polysiloxane, a C₁ to C₄ alkoxy-terminated siloxane or polysiloxane, a polyether, a polyester, a polyurethane, a poly(butadiene), or an aromatic, polyaromatic or heteroaromatic group.

24. The compound according to claim 23 selected from the group consisting of:





25. A curable composition comprising a compound according to claim 18 and a conductive or nonconductive filler.
26. A curable composition comprising a compound according to claim 19 and a conductive or nonconductive filler.

CLEAN VERSION OF NEW CLAIMS
Attorney docket 1824A

27. A curable composition comprising a compound according to claim 22
and a conductive or nonconductive filler.

28. A curable composition comprising a compound according to claim 23
and a conductive or nonconductive filler.

FILED OCT 23 2019